

## ABSTRACT

A surface-mount-enhanced lead frame and a method for fabricating a semiconductor package with the lead frame are proposed, wherein a dam bar structure between any two neighboring lead frames of a lead frame module plate is formed with an indentation and at least a solder metal layer is applied on the bottom surface of the lead frame and the indentation. A singulation process is performed along the indentation to separate the lead frame module plate mounted with semiconductor chips and package body into a plurality of packages. Therefore, the indentation and the solder metal layer applied thereon can provide solder paste improved wettability and increased solder surface, while the semiconductor package with the lead frame is mounted on an external device via a surface-mount-technology, so as to prevent problems of signal transmission owing to separation of solder joint from solder open.